US-AEP Indonesia
FY 2005 Work Plan

I. Country Strategy

The US-Asia Environmental Program (US-AEP) is a regional program of the USAID Asia Near East Bureau with the objective of cleaner cities and industry in Asia. During fiscal year 2005 US-AEP will complete a new program strategy for FY2006-2009. In FY2004, the USAID Mission in Indonesia completed a new five-year strategy for FY2004-2008 to strengthen a moderate, stable, and productive Indonesia. This workplan supports the USAID Mission strategy while US-AEP transitions to a new strategy in FY2005.

In Indonesia, the DOS/USAID MPP positions US-AEP within the goal of "economic security and prosperity," and strategy 3: "Help Indonesia sustainably manage its natural resources and environment as a foundation for Indonesia's economic growth." US-AEP activities in environmental management and governance contribute to the joint Department of State/USAID goal of "improve[d] health, education, environment, and other conditions for the global population."

A. Background and Operating Environment

Indonesia, the world's fourth most populous country, has successfully held the first direct Presidential election in its history. The elections were deemed as "largely free and fair" by international election monitors, the results serving as an accurate reflection of the aspirations of the people. There are very high expectations being placed on Susilo Bambang Yudhoyono to stamp out corruption, fight terrorism, build the economy, provide jobs and security, and improve governance.

The economy is still recovering from the events of 1997/98: the disintegration of Suharto's authoritarian New Order, the Asian currency crisis, public and private debt, and decentralization. Forces that have been competing to fill the power vacuum left by the fall of the New Order include political parties, regional warlords, the old power elite, the military, and formerly disenfranchised anarchic groups.

The post-Suharto presidencies have, however, also begun a new era of political openness and debate and have opened the way for reform of the country's political institutions. Despite the problems of a dysfunctional legal system, Indonesia has managed within four years to reconstruct its legal and political system on liberal democratic principles. Successor governments have radically revised the authoritarian Constitution to include, almost intact, the Universal Declaration of Human Rights. Moreover, a Constitutional Court is now functioning with full powers of judicial review, soon to be supported by a Judicial Commission to ensure merit-based and professional management of judicial personnel. A new Anti-Corruption Commission is also beginning work, and class action lawsuits have become a viable legal option.

Still, recovery is far from complete in the cases of legal reform, foreign and domestic investor confidence, unemployment and underemployment, regional separatism, reducing corruption, and failure of law enforcement. Largely because of a failure of law enforcement and lack of certainty as to central-regional roles, basic environmental management of air and water resources is far from meeting the demands of a rapidly urbanizing population. Disregard for the law accelerates illegal logging and pollution of the water and air, resulting in an ever-growing social burden. Today in Indonesia, 80% of the population does not have access to clean piped water, and unsafe water is one of the major causes of disease. Few Indonesian cities have even a rudimentary sewerage system, and other sources of pollution include mining and unregulated effluents. Severe air pollution in cities impacts the health of over 70% of the urban population, causing premature death, reduced child brain

development, cancer, and upper respiratory disease. In 2002, air quality in Jakarta fell in the "healthy" range only 22 days, and in 2003 only 7 days.

Yet there are encouraging signs of progress. The freeing of the media since 1998 has accompanied a general growth of interest in public affairs. There are early, tentative efforts of a small constituency challenging unquestioned deference to authority and demanding accountability and the provision of good services from the government. The Supreme Court has cleared the way for class action lawsuits, enabling those harmed by illegal activities resulting in environmental disaster to seek remedies as a class.

Between the years 2000 and 2003, the Indonesian government had successfully reduced its energy subsidies from 25% to 5% of the annual government expenditure. (In 2004, however, much of these gains were erased by the high oil prices coupled with Indonesia's becoming a net oil importer. As of October 2004, the energy subsidy represented about 18% of the national budget.) A new regulatory body for downstream oil and gas has been established with authority over fuel suppliers in a newly opening market. The government is now transforming the energy sector from a state monopoly toward a more open and competitive market, aiming at improving sector efficiency, attracting private investment, and contributing to improvement in air quality. As recent experience in the Philippines shows, introducing competition can greatly improve the government's effectiveness in enforcing regulations while providing access to cleaner fuels, bringing about better public health outcomes. Even before the retail fuel market opens to competition, leaded gasoline is being phased out in stages and the first steps have already saved the country about $266 million per year in health care.

These long-term trends have programming opportunities in the following respects:

- Central government administrators have a reduced role in local affairs
- Greater local decision-making and authority means management of public services is closer to the consumers
- Civil society and professional groups are free to associate without harassment and are beginning to establish new roles in the decision-making process
- Removal of central government subsidies leads local authorities to shift their reliance for revenue from the central government to the local consumer base. This shift requires the providers to serve local needs if they are to obtain revenue.
- State economic considerations and removal of subsidies drive the breakup of inefficient state monopolies and open markets to competition, leading to better environmental quality

B. Indonesia Country Strategy

Overall goal
In support of the US-AEP objective of "cleaner air and water in Asian cities" and USAID Indonesia Mission's objectives of "higher quality basic human services utilized" and "economic growth strengthened and employment created," US-AEP/Indonesia will seek to improve environmental health and energy sector efficiency. US-AEP efforts will create innovative, sustainable partnerships that leverage expertise and resources from U.S., Indonesian, and Asian public and private sector entities.

Strategic Approach
In support of the US-AEP strategic objective and USAID/Indonesia's strategic objectives for basic human services and economic growth, US-AEP/Indonesia will work in partnership with U.S. and Indonesian government institutions, civil society, businesses and academia. In order to achieve impacts with flexible but limited resources and staff, US-AEP will harness creative energies and leverage financial resources from new and existing partners, acting as a catalyst to effect environmental change and improvements. US-AEP/Indonesia will capitalize on its in-country and regional presence in Asia to support the USAID Mission strategy. On the Indonesian side, US-AEP will identify and engage Indonesian partners to facilitate the adoption of improved environmental

policies, management practices, and innovative service delivery systems. On the U.S. side, the program will leverage the environmental management experience of USEPA, Alliance to Save Energy, The Asia Foundation, International Institute for Education, key US professional associations, U.S. state and city agencies, universities, US-AEP sister programs in Asia, and other partners to provide focused technical assistance and information sharing and to build understanding of potential technology interventions to address environment and energy issues. Flexibility and the ability to respond rapidly to changing circumstances are hallmarks of the US-AEP program and will continue to be a part of US-AEP/Indonesia's strategic approach, particularly as the outcome of parliamentary and presidential elections allows for Indonesian partners to advance in newfound opportunities.

Our experience in implementing successful programs in Asia, availability of strategic tools to promote partnerships between US and Asian entities, and rapid access to environmental and key information resources and US institutions have been our strength. US-AEP planning continues to address current conditions while taking advantage of its distinctive tools and partnerships. There are patches where more independent local governments are responsive to their constituents, and US-AEP will work to create the enabling environment for these progressive local institutions to improve service delivery, particularly in water and sanitation. US-AEP will continue to work with community groups, professional associations, and other partners for the bottom-up component of policy change backed by solid data, complementing and strengthening USAID mission-assisted activities at the local government and national levels.

Environment and Health

In the context of the new Mission strategy for FY2004-2008, US-AEP has established new linkages in environmental health focused on the environmental services and reduced pollution that are required to support human health, such as clean water and sanitation, clean air, and management of toxics. The Mission takes an innovative approach in linking efforts to increase access to clean water and sanitation with efforts to reduce waterborne and infectious diseases that pose serious challenges in public health. US-AEP activities will underline the importance of the environment – health link through targeted activities in the areas of water efficiency and access, air quality management, reduction of mercury, and environmental education.

US-AEP will support more efficient, professional provision of municipal water/wastewater, especially to the urban poor. This objective supports the mission's broad objectives in environment and health, the President's Initiative for Water for the Poor, and the goal of reducing poverty. The program will contribute to Government of Indonesia efforts to increase access to piped clean water. Partnerships that are sustained beyond the project life between key Indonesian institutions and their US counterparts will help to increase access to water, wastewater, and solid waste services.

Also in contribution to the Mission's environment and health objective, US-AEP/Indonesia will implement activities supporting completion of leaded gasoline phase-out throughout Indonesia to improve child health by reducing lead exposure. There will be significantly broader recognition of the dangers of lead poisoning and monitored blood lead level reduction over time, along with the first national set of public information and traced lead flows in the country. A national clean emissions forum will function as the focal point for coordinating broad stakeholder engagement in decision-making and advocacy for clean fuels, clean air, and better transportation. Professional energy and air quality organizations will be linked with US and Asian counterparts helping to harmonize standards, monitor and improve fuel quality, and improve air quality management practices and enforcement of standards.

While some activities focus on improving local management capacity, others take a science-based approach, providing reliable evidence to support decision-makers and advocacy. The latter activities will provide public information on how to prevent and reduce pollution and human exposure. A theme throughout the program is the support for constructive engagement of civil society with government toward better environmental practices, compliance and enforcement, improved regulation, and good governance.

US-AEP will continue to develop partnerships for better environmental health between US, Indonesian and international organizations, including governments, civil society, universities, and the private sector.

Energy Sector Reform
During FY2005 the Mission will plan a new phase in the energy program to advance ongoing policy and regulatory efforts into the implementation stage. The USAID Mission strategy recognizes "that the availability of energy at affordable cost is vital to achieving higher levels of economic growth. The Indonesian government is now transforming the energy sector from a state monopoly toward a more open and competitive market, aiming at sector efficiency and attracting private investment and contributing to air quality." US-AEP will actively collaborate with the Mission to implement supporting activities bringing about cleaner fuels, clean air, and more efficient energy use in transport and industry. US-AEP will also collaborate closely with the Mission to strengthen the new regulatory body, increase acceptance of fuel subsidy removal, and establish clear regulatory practices that create a better investment climate.

The Indonesia country strategy integrates with selected US-AEP regional initiatives and institutions, such as the WB/ADB Clean Air Initiative for Asian Cities (CAI-Asia), USEPA Clean Air Training Network (CAT-Net), Air and Waste Management Association (A&WMA), and the Southeast Asia Water Utilities Network (SEAWUN). Each of these organizations has active constituents and leadership in Indonesia.

C. Relationship to USAID and Other Donor Programs

This FY2005 work plan reflects substantial efforts to integrate the US-AEP program with the new Mission strategy for FY2004-2008, while anticipating the new US-AEP program strategy for FY2005-2009. The US-AEP/Indonesia program is positioned under two Mission SOs, namely *Higher Quality Basic Human Services Utilized* and *Economic Growth Strengthened and Employment Created.* Most activities focusing on access to clean water/sanitation, air quality management and toxics relate to *Higher Quality Basic Human Services Utilized*, while energy reform and clean fuels activities contribute to the *Economic Growth* SO.

The new USAID Mission five-year strategy emphasizes improving quality of decentralized basic education; delivery of higher quality basic services such as human health, environmental health (access to clean water and air) and food/nutrition; accelerated economic growth; and improved democratic and decentralized governance. The objective of "higher quality basic human services utilized" focuses on the interdependence of health, nutrition and the environment. US-AEP activities in the areas of water access, air quality, toxics reduction and environmental education will support the Intermediate Result "Basic Human Services Delivered Effectively at the Local Level," which provides assistance to public and private service delivery institutions for improved management and technical capabilities to deliver environmental, health, and nutrition services. US-AEP activities in fuel quality, standards and regulation, and SME efficiency will also support the objective of "economic growth strengthened and employment created," and intermediate result "improvements in critical public services increase investment and trade efficiency," which includes assistance in transformation of the energy sector to an open and competitive market, improving sector efficiency, attracting investment, and contributing to improved air quality.

Over the years US-AEP has collaborated with the Mission's Energy program in its efforts to reduce energy subsidies, improve efficiency, and establish clear regulatory policy and standards. US-AEP has actively supported consumer acceptance of realistic fuel prices that are required for an unsubsidized, competitive downstream sector that could provide unleaded gasoline and cleaner fuels. In 2001, US-AEP brokered the MOU between the Ministry of Environment and USEPA as part of the program to support phase-out of leaded gasoline. Under this MOU, US-AEP coordinated activities by

US EPA and Centers for Disease Control together with a network of involved government agencies both central and local, NGOs, universities and private sector participants. Linked activities following the MOU are focused on completing lead phase-out and improving air quality management. US-AEP collaborated with the Department of State program " " (EAPEI), leveraging funds and coordinating an integrated set of separately funded activities with EPA. US-AEP also collaborated closely with efforts of the World Bank and the Indonesian national oil company (PERTAMINA) for lead phase-out, and with the USAID Mission's feasibility study with the Ministry of Energy and Mineral Resources' research wing, LEMIGAS. Last year US-AEP partnered with the ADB Clean Fuels Partnership as well as with US-AEP/India concerning development of alternative fuels such as CNG and LPG for transport. Given the new Mission strategy's emphasis on environmental services necessary to support public health, air quality activities will now be supported under the Mission's environmental health cluster, while the fuel quality, pricing, and governance dimensions will be pursued in collaboration with the Mission's energy sector reform program.

US-AEP has frequently assisted the USAID mission as liaison with the ASEAN Secretariat regarding environmental issues, providing updates and sharing information with Dept of State for a coordinated approach to ASEAN. US-AEP is also a resource for input to the Petroleum Report and related cables of the Economic section of the embassy. Links are also developed between US-AEP and the Mission Democracy program. Last year, AEP collaborated with the Civil Society Support and Strengthening Program to provide capacity building assistance for US-AEP project partners in clean air and leaded gasoline phase-out.

In addition, the US-AEP program contributes to the objectives of the regional ADB and WB-supported Clean Air Initiative for Asian Cities and to ADB technical assistance in FY05 for air quality management. Activities are also coordinated with assistance in air quality management from the Embassies of Switzerland and Japan. Water sector activities will be coordinated as appropriate with existing US-AEP donor partners such as the ADB and the Dutch, German, Canadian, and Australian embassies.

D. Strategy Development Process

The USAID mission's *Basic Human Services* and the *Economic Growth* SO teams have reviewed the US-AEP work plan, as well as the Program Office and the USAID Mission Director. Mission inputs have been integrated into the strategy to ensure maximum coordination during this transition year. The resulting program focus on environmental services that impact human health, and on energy reform, ensures clear support to Mission bilateral objectives while at the same time supporting the anticipated US-AEP strategic objective.

This year's in-country strategy was also developed out of the lessons learned from the results of previous years' activities and discussions with the USAID Mission, the Government of Indonesia, multilateral and bilateral donors, and community and professional associations regarding their strategies and priorities. For instance, after strategy discussions with the mission, support to activities in solid waste were de-emphasized in order to ensure maximum synergy with mission-supported activities.

This strategy has grown out of frequent updating and information sharing with the World Bank, ADB, UNDP, JICA, GTZ, and the embassies of Canada, the Netherlands, and Australia. It reflects collaboration with the Ministry of Environment, the National Development Planning Agency, Ministry of Energy and Mineral Resources, Ministry of Transport, BPLHD Jakarta (province level), and numerous other city and regency governments. In addition to being integrated with the mission and Indonesian government agencies, the program is coordinated with the work of professional organizations and NGOs such as Joint Committee for Phase-Out of Leaded Gasoline (KPBB), Partnership for Clean Emissions (MEB), Swisscontact, Pelangi, Energy Analysis and Policy Office (EAPO), Institute of Technology Bandung (ITB), University of Indonesia, CAI-Asia, Friends of the

Environment Fund (DML), The Asia Foundation (TAF), PERPAMSI, and IATPI. Partnership is at the core of the US-AEP program, and we consider all of these institutions partners in development.

A new strategy for US-AEP will be designed in early FY2005 and introduced in FY2006. In addition to this work plan, a transition plan will be prepared to transfer US-AEP's successes and partnerships to the new strategy, wherever appropriate. During this transition year, US-AEP will aim to complete or sustain existing activities and capture best practices and lessons learned.

US-AEP Partners and Partner Tools

US-AEP mobilizes the expertise of a number of US agencies and employs a variety of tools designed and offered by US-AEP partners to implement the US-AEP Indonesia country program. The Institute of International Education (IIE) manages the Environmental Exchange Program for Sustainable Growth (EPSG) that facilitates exposure visits and study tours to the US and within Asia for Indonesians and travel of US entities to Indonesia. EPSG helps in transfer of technology, best practices and experience to Indonesia and to enhance the sustainability and visibility of our programs. EPSG response time and the tour design capability are commendable and we often use EPSG programs strategically to leverage other donor resources. The USEPA provides technical expertise to Indonesia focused on leaded gasoline phase-out, managed through the Office of International Affairs, and we have used this mechanism strategically to leverage resources from other agencies. The Council of State Governments (CSG) partnered with US-AEP to develop two grant mechanisms to facilitate technology transfer, namely, immediate response grants (IRG) to individual institutions where grants up to $25,000 are offered and much larger (about $150,000) State Environmental Initiative (SEI) grants that facilitate partnering U.S. states with counterparts in Asia to address environmental and efficiency issues. Alliance to Save Energy (ASE) is a key professional partner in Indonesia, and ICMA has been in the past. The Asia Foundation (TAF) has partnered with US-AEP to manage the Environment and Civil Society program. Overall coordination and the US-AEP program management support are provided by the Technical Support Service Contract (TSSC), managed by the Louis Berger Group. TSSC, IIE, and TAF have local partner offices in Jakarta as well as regional offices in Bangkok, Thailand and the Washington, DC offices.

Activity Table:

Activity	Activity Purpose
1. Reduced Water Contamination and Improved Waste Management	Increase clean water access for the poor and improve water quality
2. Upgrading Skills in Water Utility Operations	Increase clean water access for the poor and improve water quality
3. Urban Air Quality Management	Curb air pollution in urban areas to protect human health
4. Health Impacts Monitoring from PM and CO Exposure	Assess health risks from air pollution and benefits of pollution reduction measures.
5. Improved Energy Governance and Resource Efficiency	Improve transparency in energy governance and improve energy resource efficiency.

II. Activities

1. Reduced Water Contamination and Improved Waste Management

Primary Program Area:

IR2: Improved urban environmental management
Sub-IR: Improved water quality
Sub-IR: Improved wastewater management
Sub-IR: Improved hazardous and toxic waste management
IR3: Improved industrial environmental management, technologies
Sub-IR: Improved environmental management

Implementing Partners:

US-AEP: USAID, EPSG, TAF, CSG
In-country partners: Lead Information Center, Dana Mitra Lingkungan, Office of Surface Mining, Pacific Patra Indonesia
International partners: GMI International

Description: This initiative aims to reduce contamination in water supplies and prevent harmful exposures to dangerous contaminants. Heavy metals and other harmful wastes enter the water supply through unsafe but common practices in handling hazardous materials and wastes.

This activity builds on the information and outreach platform of the Lead Information Center (LIC), an ongoing activity that is establishing a resource center for the public to access information about the presence of lead in the environment (such as leaded gasoline emissions and lead in drinking water and food), its effects on human health, and how to avoid exposure. The Center will develop information materials, training, and outreach programs for workers and families in higher-exposure areas, countering popular myths and empowering communities. The Center will embed its campaigns in community events in targeted areas, culminating in a Mother's Forum Against Lead in Jakarta in June 2005.

The LIC will address both lead and selected toxics, such as mercury, in the environment. Information resources will be developed and tested concerning mercury contamination in water supply in high-risk areas. Mercury used in small-scale gold mining contaminates waterways, posing serious health risks to miners and whole downstream populations that eat contaminated fish and plants. Like lead, mercury bioaccumulates. The Natural Resources Management III program of USAID has introduced the more efficient cyanide process in N. Sulawesi in collaboration with the local government environment office, resulting in better gold recovery without mercury exposure. US-AEP will build on this effort to encourage reductions in mercury exposure that will improve community and worker health. The information materials developed will be used to conduct training of trainers to maximize community outreach. The site(s) will be determined in consultation with local partners and USAID to maximize impact with limited resources.

Linked to this effort, the LIC and IndoRepro, a local research and education non-profit organization, will provide training for local governments and authorities on detecting water contamination downstream and mitigating the damage on human health and the environment. Local governments are often unprepared to respond to reports of contamination and to investigate the cause in a scientific but low-cost manner. The training program will equip participants with a science-based approach to understand common environment and health problems stemming from waste dumping and strategies for detection and mitigation of impacts.

Another ongoing component of this activity is the demonstration of a low-tech and environmentally sound way to clean sludge pits. The existence of huge, open air pits and lagoons full of old sludge and

miscellaneous solids from petroleum processing is no secret, but it is not readily discussed in public policy because of the severity of the situation. The fact that these pits have been around for so long underlines the obvious danger they pose to local water bodies and the water table. With PERTAMINA's recent transition toward becoming a private company, there is new interest in cleaning these pits. The sludge pits can be eliminated, which will remove a major threat to the integrity of water supply in Cilacap (Java), Duri and Dumai (Sumatra), and other islands. A Maryland company, GMI International, with support through a CSG grant, is demonstrating a safe, low-tech way to eliminate the pits. The process uses a biodegradable agent that will support tank maintenance in a manner consistent with ISO standards while maximizing resalable oil product. The training and documented results will become part of the Lead Information Center resource base. By understanding how this treatment process is done, Indonesian technicians will be able to expand clean-up efforts to further eliminate the pits and decontaminate the soil.

Purpose: *To improve environmental health through a) better detection and b) public information about water contamination and improved waste management.*

Expected Results:

- Appropriate information materials developed, tested, and communicated to target communities, leading to reduced exposure to mercury and other harmful water contaminants. (FY2005)
- Improved use of science-based skills by key local government personnel in detecting water contamination and mitigating its impacts, reducing health impacts in local communities. (FY2005)
- Old sludge pits will be eliminated in an environmentally friendly manner. Indonesian technicians will have the ability and begin to adopt new practices in pit clean-up efforts, soil decontamination, and handling sludge product in a safer way. The demonstration results will be measured according to EPA standards and documented by the LIC. (FY2005)

Implementation Activities:

a. **TAF** – Grants to support training for water contamination detection and mitigation and mercury information and outreach.
b. **EPSG** – Technical exchange with US counterparts and participation in LIC study tour to the US.
c. **TSSC** – Short-term technical assistance for designing and conducting training to local governments in detection and mitigation of water contamination (heavy metals and hazardous waste regulatory training)

Continued implementation of projects with FY2004 funds:

d. **CSG** – Grant to assist State of Maryland company GMI International to demonstrate environmentally sound sludge pit remediation on location and provide technical assistance for local counterparts for replication.

2. Upgrading Skills in Water Utility Operations

Primary Program Area:
IR2: Improved urban environmental management, technologies and resource efficiency
Sub-IR: Management practices and technology adopted to improve wastewater management

Implementing Partners: US-AEP: USAID, EPSG, TSSC
In-country partners: Water utilities
International partners: American Water Works Association (AWWA)

Description: This activity focuses on strengthening water utilities and their local counterparts to improve management, leading toward increased access to clean water supply, especially for the urban poor.

Today only 39% of urban populations have access to clean, piped water supply. Most households would be willing to pay for a piped water connection, since the alternative of paying a vendor for water is as much as 70 to 90 times more expensive per liter. On the other hand, unaccounted-for water treated by local utilities may be as much as 50%. The Environmental Services Program of the USAID Mission will begin in FY2005. The program will work closely with local governments, local water enterprises, communities and NGOs to establish clear roadmaps for maximizing service delivery. Progress in improving service delivery, for which there is strong demand and a clear willingness to pay, is restrained by a historical lack of good management and operational practices, but decentralization and removal of subsidies provides the incentive to reorient operations towards the goal of full cost recovery. Through improvements in managing services effectively, upgrading system operation and maintenance, customer orientation and community outreach, water enterprises can improve service delivery, tie improved service to higher tariffs, save energy costs, and generate investment for expanding pipe connections.

Building on past years' activities, training and capacity-building activities will assist selected local utilities to improve operations such as metering to increase water and energy efficiency, leak detection to reduce unaccounted-for water, and other basic management practices that are necessary for expansion of service coverage. US-AEP will mobilize experienced volunteers in the American Water Works Association to provide key technical assistance in these areas in collaboration with Yayasan Pendidikan Tirta Dharma, the training branch of the national water enterprises association. Selected water enterprises that have successfully made such improvements and achieved full cost recovery are also an important source of assistance for neighboring water enterprises.

Purpose: *To strengthen the capacity of water utilities to achieve cost recovery and support expansion of piped water connections to the poor.*

Expected Results:
- Improved energy efficiency and reduced operational costs, reduced unaccounted-for water, and reduced customer complaints through training and capacity building. (FY2005)
- Improved cost recovery of water utilities toward expanded service connections to the poor. (FY2005)

Implementation Activities:

a. **EPSG** – Technical exchanges with AWWA for training and capacity building, and exchanges of key officers to water enterprises in the SE Asian region for information exchange and solution to specific problems.
b. **TSSC** – Grant to support training development for managerial and operations personnel.
c. **TSSC** – Short-term technical assistance will provide expertise for expanding training program for maximum impact.

3. Widening Leaded Gasoline Phase-Out for Better Air Quality and Public Health

Primary Program Area:
IR1: Improved environmental governance
Sub-IR: Laws, regulations passed, compliance mechanisms active
IR2: Improved urban environmental management
Sub-IR: Mitigated air pollution

Implementing Partners:
US-AEP: USAID, USEPA, EPSG, TSSC, TAF
In-country partners: Ministry of Environment, Swisscontact, Partnership for Clean Air, Joint Committee for Leaded Gasoline Phase-out (KPBB), Special Province of Jakarta Environment Department, University of Indonesia Faculty of Public Health, JICA, Institute of Technology Bandung, Pelangi, Lead Information Center, Gadjah Mada University, Yogyakarta
International partners: ADB, WB, A&WMA, Health Effects Institute

Description: Indonesia's economic development over the past 15 years has been accompanied by a rising social burden of health consequences resulting from severe pollution, with the poor suffering disproportionately. The air quality in Indonesia's major cities ranks among the world's poorest. In the year 2002, there were only 22 days that Jakarta's air quality was in the "healthy" range, and in 2003 there were only 7 days. Air pollutants such as lead, particulates, CO, NOx, and VOCs regularly exceed health-based standards by double or larger margins, mostly caused by vehicle emissions. Sustained exposure poses serious health risks such as reduced child brain development and IQ levels, upper respiratory illnesses (affecting over 70% of urban populations, particularly children), premature death, and cancer.

Switching to unleaded gasoline is crucial to reducing human exposure to lead and other vehicle emissions. When lead-free gasoline is supplied on whole islands, not only will lead exposures drop significantly, but vehicles can be fitted with affordable catalytic converters that reduce emissions of *all* pollutants by more than 90%. The vast majority of Asian countries have already completed lead phase-out, and the results have been well documented, demonstrating significantly reduced air pollution in megacities and clear improvements in public health.

This project area continues US-AEP's effort to focus attention on leaded gasoline phase-out and support the ongoing GOI process of phasing out lead nationwide. Following the successful phase-out in Jakarta, Cirebon, Bali and Batam (40% of the national supply), US-AEP will support completion of lead phase-out through science-based studies, civil society training, public information and outreach, international professional exchanges, and development of better clean air regulation. The project will be done in partnership and consultation with a broad-based network of key stakeholders in central and city government agencies, civil society, and the private sector.

The USEPA will continue its work with KPBB to strengthen the Lead Information Center as a national information dissemination center for the public to obtain general information about lead poisoning and prevention. Following strategic planning in FY04, the USEPA will plan a study tour in the US for the staff of the LIC to build capacity in the management of information and strategic planning for outreach. A regional exchange with the George Foundation in India will provide training and information exchange on lead poisoning prevention. Ongoing TSSC short-term technical assistance will follow up assistance from Michael Walsh and continue to support the Ministry of Environment to prepare to implement Decree No. 141, 2003 on adopting better emission standards for new vehicles by 2005.

In an ongoing project, the University of Indonesia, in partnership with US-AEP/TSSC, Osaka University, JICA, the Ministry of Environment laboratory, and City of Jakarta, are monitoring respiratory health and blood lead levels in association with air pollution exposures of elementary school children in Jakarta. The results will track reductions in blood lead compared to reductions in

ambient lead in Jakarta, supporting advocacy for completing lead phase-out nationwide, taking effective measures to curb vehicle emissions, and predicting future risk and the impacts of potential policy measures.

Pelangi and The Asia Foundation will conduct the second phase of the regulatory consultation and review process for improved air quality management. The project's first phase identified the underlying problems of today's institutional conflicts of authority in air quality regulation and enforcement and published an analytical paper. The second phase will work directly with local governments, parliament committees, and political parties in the cities of Medan, Makassar, and Pontianak. The resulting analysis will be written as a white paper, or "academic paper," which is a prerequisite to drafting legislation that establishes clear institutional arrangements to improve air quality regulation and enforcement.

The Partnership for Clean Emissions will continue to promote the Action Plan on Integrated Vehicle Emission Reductions Strategy (IVERS) and facilitate its implementation. A coordinator will support management of outreach activities and coordinate with regional and related programs such as the Clean Air Initiative for Asian Cities of ADB. The Partnership will continue work with Swisscontact to develop a systematic approach for regular publication of air quality monitoring data, such as a weekly index that appears in newspapers. It will also work with Gadjah Mada University to develop emission factors building on efforts over the past two years for creating emission inventories for Indonesian cities.

As part of a broader series of technical assistance and training partnerships, US-AEP will identify and fund key individuals for regional and US-based exchanges, technical meetings, and professional conferences focusing on urban air quality and transportation. Participants will present findings to international audiences of peers and obtain feedback, learn from experiences of Asian countries and the US, develop new partnership and funding opportunities, and expand professional networks. US-AEP/Indonesia will support participation in the following partner events: Better Air Quality 2004, Agra, India (15 participants); Air and Waste Management Association annual conference and exhibition, June 2005 (A&WMA), 2 participants.

Toward the end of the fiscal year, TSSC will assist in collecting and documenting lessons learned from local implementing partners.

Purpose: *To expand use of lead-free gasoline and reduce exposure to lead and harmful air pollutants, thereby improving air quality and child health.*

Expected Results:

- The North Coast of Java supplied nearly 100% with unleaded gasoline by September 2004. (Achieved in FY2004)
- A Lead Information Center linked with USEPA will generate and disseminate public information to target groups and coordinate research on the presence of lead, health impacts, and how to avoid exposure. (FY2005)
- Community recognition of the dangers of lead and pressures for unleaded gasoline will grow in five major cities, as measured by a perception survey before and after public outreach activities. (FY2005/2006)
- The changes in blood lead level of Jakarta school children will be measured, demonstrating the health benefits of phasing out leaded gasoline. The association of air pollution and respiratory health in elementary school children in Jakarta will be determined. (FY2005)
- A policy paper published recommending ways to improve institutional coordination among authorities that influence air quality management at both local and national levels. (FY2005)
- Improved data gathering system which will support an air quality index for regular publication in Jakarta (FY2005)

- Yogyakarta and other medium-sized cities will have emission factors that vastly improve emissions inventories. The inventories will support continued pressure for unleaded gasoline and assist cities in prioritizing measures to reduce emissions. (FY2005)

Implementation Activities:

a. EPA – EPA experts organize and lead study tour for LIC capacity building.
b. TSSC – short-term technical assistance to follow up Michael Walsh's inputs and continue to assist the Ministry of Environment preparing to implement improved vehicle emission standards linked to improved fuel quality and technology.
c. TAF – Grant to Swisscontact and Partnership for Clean Air for air quality monitoring capacity building toward index publication.
d. TSSC – Grant to University Gadjah Mada in Yogyakarta to develop emission factors for emission inventory development.
e. EPSG – BAQ, A&WMA, other regional exchanges.

Continued implementation of projects with FY2004 funds:

f. TSSC – Continued implementation of ongoing project monitoring blood lead levels and health impacts of air pollution in Jakarta children
g. TAF – Continued implementation of ongoing project for regional consensus-building on air quality management decentralization.
h. TSSC – Continued implementation of MEB IVERS (coordinator)

4. Health Risk Monitoring: Exposure to Particulate Matter and Carbon Monoxide in Jakarta

Primary Program Area:
IR2: Improved urban environmental management
Sub-IR: Mitigated air pollution

Implementing Partners:
US-AEP: EPSG, TSSC
In-country partners: University of Indonesia Faculty of Public Health, Swisscontact, Partnership for Clean Air, Special province of Jakarta Environment Department and Health Department,
International partners: University of California

Description: After successfully phasing lead out of gasoline in Jakarta, particulate matter (PM) and carbon monoxide (CO) are two top priority air pollutants targeted for reduction. Ambient levels of PM and CO regularly exceed air quality standards by double or a larger margin, and at least 70% of the urban population suffers associated health impacts, including premature death, respiratory disease, reduced heart and lung function, and cancer. About 70% of ambient PM and CO emissions are from vehicle emissions in urban areas. Health risk assessments are important in quantifying the benefits from environmental improvements.

The University of California and Indonesian partners will test exposure levels of target groups in Jakarta to assess and report health risks attributable to severe levels of PM and CO exposure. Using backpack sized personal air samplers, we can measure concentrations in microenvironments such as buses, schools, police posts, and roadside vendors. Measured concentrations will allow estimation of health effects attributable to air pollution and enable a prediction of the benefits from emission reduction policies. The measurements will also establish a baseline to track improvements over time, demonstrating the efficacy of future policies. The potential involvement of students, police, bus drivers, public figures, celebrities, and other target groups in taking samples will provide excellent opportunities to build a broader alliance for pollution reduction measures as well as excellent opportunities for media coverage.

Purpose: *To measure exposure of individuals to ambient particulate matter and carbon monoxide, assess health risks of target groups, and provide science-based prediction of public health benefits from vehicle emission reduction measures.*

Expected Results:

- Improved understanding of the concentrations and variability of exposure to particulate matter (PM) and carbon monoxide (CO) through measurements in urban areas. (FY2005)
- Assessment report completed of health impacts from exposure to severe levels of PM and CO, predicting the benefits of emission reduction policies and establishing a baseline. (FY2005)

Implementation Activities:

a. EPSG -- Technical exchange for exposure monitoring capacity building. $10,000

Continued implementation of projects with FY2004 funds:

b. TSSC – Grants and STTA to support PM and CO exposure monitoring of vulnerable groups, generating important evidence of health impacts in work and other environments. ($98,000 FY04 funds)

5. Improved Energy Governance and Efficiency

Primary Program Area:
IR1: Improved environmental governance;
IR2: Improved urban environmental management, technologies, and resource efficiency;
IR3: Improved industrial environmental management, technologies and resource efficiency.

Implementation Partners:
In-country Partners: EAPO, Ministry of Energy and Mineral Resources, Pelangi, Lead Information Center, Partnership for Clean Emissions
International Partners: IIE, ASE
Description: Over the past few years, the GOI has made substantial progress in oil and gas sector reform as a key to achieving stable economic development. The new Oil and Gas Law sets in motion a process of breaking PERTAMINA's historic monopoly and opening the downstream sector to competition in 2005. The prospective opportunities for competitors are attracting new investment to the retail fuel sector. PERTAMINA has been privatized, and a new regulatory body has been established in the Ministry of Energy and Mineral Resources to set standards and enforce them as the retail fuel market is opened.

The driving forces of oil and gas reform provide significant programming opportunities for improved governance and provision of consistent regulation that is needed to open the competitive market and attract significant foreign investment. The creation of a competitive environment in the retail fuel sector will greatly enhance the effectiveness of the government in enforcing higher fuel quality standards, as retailers become more customer-focused and consumers begin to choose among suppliers. These reforms also provide a platform for effective civil society input to support improved energy governance and supply of unleaded gasoline.

The Indonesia DOS/USAID MPP calls on US-AEP, USAID Mission and ECON to "support efforts to restructure Indonesia's energy sector, so that it becomes more transparent and competitive, developing alternative energy sources, eliminating lead in fuels, and instituting mandatory emissions testing."

<u>Information and advocacy for transparent energy sector regulation</u>
US-AEP will support the USAID energy program for improved governance in the context outlined above. The Lead Information Center and the Partnership for Clean Emissions Working Group on Fuel Quality will coordinate with the EAPO team to collaborate on providing correct information for the Ministry of Energy and Mineral Resources and the public. Information and analysis about cleaner fuel options and cost analysis oriented toward public benefit will be developed and presented in policy forums throughout the year. The LIC and Partnership will continue to actively participate in the working group for new fuel specifications set up by the new regulatory body, BP Migas. Their participation will encourage transparency and will support the activities of the USAID-funded Energy Analysis and Policy Office (EAPO) toward strengthening the new energy regulator and its transparency. US-AEP and USAID will continue to seek to co-sponsor training and participation in national and regional forums of key leaders and advocates when it is mutually beneficial to do so.

<u>Mitigating energy price shocks and improving competitiveness through energy efficiency</u>
Government programs to remove energy subsidies have been delayed by strong opposition from industry groups, and recently, by the election. Energy price shocks have increased operating costs significantly, and while some industries may pass these costs on to the consumer, this is not an option for many sectors. This energy efficiency project will assist SME hotels facing energy cost increases to stay competitive. Efforts to mitigate the electricity price shocks will reduce the opposition to government subsidy reduction. The ongoing project will help SME hotels preserve existing jobs of over 25,000 employees in Jakarta.

The Alliance to Save Energy and Pelangi are providing targeted assistance to raise awareness of energy- and money-saving improvements that can be made in Indonesia's hotel sector and begin to institutionalize energy efficiency in a target segment of the sector. In FY2004, the program focuses on Jakarta's SME hotels, though the approach is applicable to public buildings such as hospitals and schools as well.

Since the mid-nineties, several programs focusing on the promotion of energy efficiency in Indonesia's hotel sector have been initiated. The vast majority of these programs, however, have been executed in four-star and five-star hotels. The Alliance and Pelangi are working with the Indonesian Hotel and Restaurant Association and other stakeholders to develop a replicable program model that can be used to effectively transfer practical knowledge of energy efficiency. The project encourages the development of a practical institutional network to assist hotels in identifying opportunities for energy efficiency and implementing measures successfully.

The ongoing energy efficiency program is in the third stage of activity, building on work during 2002-2003. Previous phases have identified and defined key priority areas for reform, conducted stakeholder meetings, completed a study with the Institute of Technology in Bandung Center for Research on Energy and Materials, built effective partnerships with stakeholders, and implemented parts of the detailed project workplan.

The detailed workplan is divided into four phases: 1) *Research and development* – roundtable discussion with relevant stakeholders, kickoff workshop, hotel energy assessment survey, in-depth interviews with hotel management, and selection of 3 pilot hotels; 2) *Pilot project implementation* – energy audits of selected hotels, development of recommendations and action plan, development of non-star hotel guidebook, guidebook training for selected hotels management and staff; 3) *Outreach and dissemination* – dissemination of results and guidebook to all Jakarta Melati hotels, ee training for Melati hotel management and staff, development and dissemination of campaign kit, development of non-star hotel network; and 4) *Evaluation and next steps* – end of project evaluation, results-oriented seminar, development of non-star hotel website to be hosted by in-country partner.

Purpose: *The purpose of this project is to a) promote transparent governance in the downstream fuel supply sector; and b) assist hotels to retain jobs and competitiveness despite energy price increases, and to reduce pollution, through energy efficiency.*

Expected Results:

- Information and analysis about fuel options oriented toward public benefit developed and presented in key policy decision forums. (FY2005)
- Improved competitiveness of SME hotels through energy savings
- Energy efficiency guidebook for SME hotels developed and disseminated throughout hotel sector (FY2005)
- Training for hotel management and energy managers throughout sector (FY2005)
- Energy efficiency case studies developed for non-star hotel sector (FY2005)
- Energy efficiency website will be a source for non-star hotels to reference information on energy and money-saving information, complete with case studies and financing information (FY2005)
- Network of non-star hotel energy managers created (FY2005)
- Replicable program model developed and target cities identified (FY2005)

Implementation activities:

a. **EPSG:** Support for participation in key forums.

Continued implementation of projects with FY2004 funds:

b. **ASE Subcontract:** Grant to Pelangi to implement the project locally
c. **ASE:** Energy and water efficiency sharing best practices, technology seminars.